CLAIMS

What is claimed is:

1. A prosthesis for dialysis, comprising:

an abdominal sac adapted to include a dialysate therein, said abdominal sac including a semi-permeable membrane outer wall, said abdominal sac adapted to be retained in the abdominal region of a patient's body with said semi-permeable membrane outer wall in communication with unconcentrated urine in the abdominal region for receiving unconcentrated urine through said semi-permeable membrane outer wall without permitting dialysate to exit through said outer wall of said abdominal sac;

a fluid guide conduit adapted to receive the unconcentrated urine and dialysate from the abdominal sac and to communicate the dialysate back into the abdominal sac for recirculation; and

a conduit extension extending from said fluid guide conduit and adapted to receive the unconcentrated urine from said fluid guide conduit, said conduit extension adapted to extend into and terminate in a section of the patient's bowel separated from the patient's GI tract to communicate the unconcentrated urine in said conduit extension with the section of bowel for concentrating the urine within the section of bowel.

2. The prosthesis of Claim 1, wherein said conduit extension includes a first conduit section and a second conduit section, said first and second conduit sections adapted to extend into and terminate in the section of the patient's bowel.

3. The prosthesis of Claim 1 wherein said region of said conduit extension within the section of the patient's bowel includes apertures for communicating the unconcentrated urine in said conduit within walls of the section of bowel.

4. The prosthesis of Claim 3, wherein said fluid guide conduit is adapted to extend through the section of the patient's bowel, a region of said fluid guide conduit arranged to communicate the unconcentrated urine in said fluid guide conduit with the section of bowel for concentrating the urine within the section of bowel.

5. The prosthesis of Claim 1, further comprising an exit port arranged in the section of bowel, the exit port adapted to direct concentrated urine from the section of bowel to the urinary bladder of a patient.

6. The prosthesis of Claim 5, further comprising a filter between said fluid guide conduit and the exit port, said filter having a semipermeable membrane for filtering urine to the exit port without permitting dialysate to exit through said membrane.

7. The prosthesis of Claim 1 wherein said fluid guide conduit includes a urine transfer sac and said conduit extension includes a urine receiving sac, said urine transfer sac and said urine receiving sac being separated by a filter adapted to permit

unconcentrated urine to pass from said urine transfer sac into said urine receiving sac, and adapted to preclude the dialysate from exiting through said filter.

8. The prosthesis of Claim 1, wherein the fluid guide conduit includes:

a first conduit section communicating said abdominal sac with a pouch adapted to be placed in the thoracic region of the patient's body, and

a second conduit section communicating with the pouch and adapted to communicate the dialysate back into the abdominal sac.

9. The prosthesis of Claim 8, wherein said conduit extension includes a third conduit adapted to extend from said second conduit into the section of bowel.

10. The prosthesis of Claim 9, wherein said second and third conduits are separated by a filter that permits urine to pass from said second conduit to said third conduit, but precludes dialysate from passing through said filter.

11. The prosthesis of Claim 9, wherein said third conduit includes a first conduit section and a second conduit section, said first and second conduit sections adapted to extend into and terminate in the section of the patient's bowel.

12. The prosthesis of Claim 1 further comprising a connector adapted to direct the concentrated urine from the section of bowel to the urinary bladder of the patient.

13. The prosthesis of Claim 12, wherein the connector includes the right ureter connecting the bowel to the urinary bladder.

14. The prosthesis of Claim 13, wherein the connector includes the appendix or cecum.

15. The prosthesis of Claim 1, wherein said fluid guide conduit includes a one way valve for permitting the unconcentrated urine to flow only in a direction from the abdominal region towards said conduit extension.

16. The prosthesis of Claim 1, wherein said conduit extension includes a one way valve between said fluid guide conduit and the section of the patient's bowel for permitting the unconcentrated urine to flow only in a direction from said fluid guide conduit towards the section of bowel.

17. The prosthesis of Claim 1, further comprising a second fluid guide conduit adapted to receive the unconcentrated urine and dialysate from the abdominal sac and to communicate the dialysate back into the abdominal sac for recirculation, said second fluid

guide conduit further adapted to extend into the section of the patient's bowel separated from the patient's GI tract to communicate the unconcentrated urine in said second fluid guide conduit with the section of bowel for concentrating the urine within the section of bowel.

18. The prosthesis of Claim 1, further comprising a pump adapted to move the unconcentrated urine and dialysate within the prosthesis.

19. The prosthesis of Claim 18, wherein said pump includes an implantable mechanical or electrical pump.

20. The prosthesis of Claim 18, wherein said pump includes a thoracic pouch in fluid communication with said abdominal sac and adapted for implantation into the thoracic region of the patient

21. A continuous internal peritoneal dialysis method comprising containing unconcentrated urine in the abdominal region of a patient, and directing the contained unconcentrated urine into a section of bowel in which the urine is concentrated for removal from the patient.

22. The method of Claim 21, further comprising separating the section of bowel from the GI track of the patient, and connecting the section of bowel with the urinary system of the patient.